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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,924	06/22/2006	Philippe Le Roy	PF030185	4851

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EXAMINER	
LEIBY, CHRISTOPHER E	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,924	LE ROY, PHILIPPE	
	Examiner	Art Unit	
	CHRISTOPHER E. LEIBY	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

1. **Claims 1-13** are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-13** are rejected under 35 U.S.C. 102(b) as being anticipated by **Bu** (US Patent Application Publication 2002/0101172).

Regarding **independent claim 1**, Bu discloses an active-matrix image display device comprising: several light emitters forming an array of emitters distributed in rows and columns (*figure 2 and paragraph [0002] wherein an active driving system refers to an active matrix driving system which comprises of a two dimensional arrays of OLEDs in rows and columns*); power supply means capable of supplying current simultaneously to all of the emitters of a column during an emission step and a step of programming the emitters (*figure 2 reference ground directly connected to transistor 21 wherein the current flowing through the OLED by the DRV shown in figure 2 is in direct relation to the ground connected through transistor 21*);means for controlling the emission of the emitters comprising: for each emitter of the array, a current modulator comprising a source electrode, a drain electrode and a gate electrode, a drain current being able to pass through said modulator in order to supply said

emitter, for a voltage between the drain or the source and the gate equal to or greater than a trip-threshold voltage (*figure 2 reference 21 and paragraphs [0020]-[0022]*), for each column of emitters, column address means capable of addressing in succession each emitter of said column of emitters by applying a value representative of a data set point to the gate electrode of the modulator associated with this emitter in order to actuate it (*figure 2 reference 4 and paragraphs [0019]-[0022]*), during a programming step, for each row of emitters, row select means capable of selecting in succession the emitters of each row of emitters (*figure 2 reference 3 and paragraphs [0019]-[0022]*), during the programming step and for each modulator, storage means capable of storing electric charges at the gate electrode of the modulator (*figure 2 reference 23 and 21 and paragraph [0022]*); and trip-threshold voltage compensation means comprising comparators, the comparators being capable of comparing, during the step of programming a selected emitter, a value representative of the drain current supplying the selected emitter with the value representative of the data set point for controlling the quantity of charge stored in the storage means, wherein the compensation means comprise, for each column of emitters, a single unit for determining a representative value of the drain current supplying the selected emitter on the basis of a measurement of a representative value of the current for supplying all of the emitters of the column (*paragraphs [0020]-[0022] wherein the capacitor 23 of figure 2 is adjusted so that the OLED is not affected by the characteristics of transistor 21 and figure 2 reference 6 for current comparator which compares drive current with a reference current*).

Regarding **claim 2**, Bu discloses an image display device, wherein the power supply means for the emitters are connected directly to each modulator of the control means (*figure 2 reference ground directly connected to transistor 21*).

Regarding **claim 3**, Bu discloses an image display device , wherein the power supply means for the emitters are connected directly to each emitter of a column (*many different driving schemes are available to send current to the OLED however in the case of Bu transistor 21 and 54 open or switch to an on state to directly connect the OLED to their respective power supplies*).

Regarding **claim 4**, Bu discloses an image display device, wherein the power supply means for the emitters comprise a voltage supply generator capable of supplying all of the emitters of a column and in that the compensation means are capable of compensating in succession the trip-threshold voltage of each modulator of all of the emitters of a column (*paragraphs [0020]-[0022] and figure 2 reference 6 and VS and ground*).

Regarding **claim 5**, Bu discloses an image display device, wherein the compensation means further include: a drive generator capable of generating a drive signal applied to the gate of said modulator (*figure 2 reference 4*); and means for modulating the duration of said drive signal according to the value of the data set point and the value of the trip-threshold voltage (*paragraphs [0020]-[0022] wherein switch 54 switches to an off state to stop current from flowing into the OLED and hence stop the duration of emitting light*).

Regarding **claim 6**, Bu discloses an image display device, wherein the data set point is a data voltage and in that the comparators are capable of

emitting a warning signal when the voltage representative of the intensity of the drain current is equal to a number of times said data voltage (*figure 3 N1 and N2 provide the same function as a comparator and generate an output/warning signal through Nd2 and N3d to create a proportional output to the OLED paragraphs [0025]-[0026]*).

Regarding **claim 7**, Bu discloses an image display device, wherein the means for modulating the duration of the drive signal comprise: a switch connected in series with the drive generator (*figure 3 reference P3*); and a control unit capable of switching said switch (*figure 3 reference 6 specifically control unit N1 and N2 disclose whether to increase or decrease/data set point received or warning signal received via using N3 paragraphs [0025]-[0026]*), on the one hand, when the data set point is received, and on the other hand, when the warning signal is received.

Regarding **claim 8**, Bu discloses an image display device, wherein the drive signal generated by the drive generator is amplitude-modulated according to the value of the data set point (*paragraph [0025]-[0026] disclose wherein the drive current is increased or decreased which is amplitude modulation*).

Regarding **claim 9**, Bu discloses an image display device, wherein the drive generator is a current generator and the modulator is capable of being current-controlled (*figure 6 reference N2 and N1 which is a current mirror current controlled and paragraphs [0025]-[0026] wherein a drive current is output to the OLED*).

Regarding **claim 10**, an image display device, wherein the drive generator is a ramp voltage generator and the modulator is capable of being voltage-controlled.

Such a driving and control scheme does not emphasize any significance as what would be the benefit from applying such organization. Therefor, the examiner asserts that such are based on the design choice of device and provide no specific improvements and are merely inherent variations through the relationship of current and voltage to that disclosed in claim 9. Therefor, claim 10 is rejected on the same grounds as claim 9 and as discussed above.

Regarding **claim 11**, Bu discloses an image display device, wherein the compensation means further include a unit for measuring the intensity of a current, capable of measuring the intensity of the drain current passing through a selected emitter during the programming step (*paragraphs [0020]-[0022] wherein transistor 53 is left on to measure intensity of current passing through OLED in a programming step before emitting light*).

Regarding **claim 12**, Bu discloses an image display device, wherein the supply means comprise a line to which the measurement unit is directly connected (*figure 2 reference 6 connected directly to ground*).

Regarding **claim 13**, Bu discloses an image display device, wherein the storage means comprise at least one storage capacitor connected to the gate and to the source of the modulator and in that the compensation means further include reset means capable of applying a voltage pulse to said capacitor in order to discharge it (*figure 2 reference 23 and paragraph [0022] wherein adjustment includes charging and discharging*).

Response to Arguments

4. Applicant's arguments filed 3/26/2009 have been fully considered but they are not persuasive. The arguments will be addressed in the same order as disclosed. In regards to argument a, applicant argues that Bu does not disclose a single determination unit for each column of emitters however as claimed each and shown in figure 2 of Bu each emitter has a single determination unit 6. Even though the same unit is applied to each emitter and not a single separate determination unit for each and every emitter such subject matter is not claimed and further applying a single determination unit rather than multiple units to perform the same function does not hold patentable weight since the single unit does the same function as a plurality of units with a benefit of reduction of parts.

Argument b, applicant argues that the determination unit is not capable of determining a value of the drain current supplying the selected emitter on the basis of a measurement of a reference value of the supply current for all of the emitters of the column. Again, even though a single determination unit is used for each emitter, each emitter's current is still able to be detected and modified. Therefor, since each emitter's current is able to be modified including those emitter in a column then the modified current is based upon all of the emitter of the column as claimed.

Arguments c and d, applicant argues that Bu does not disclose a power supply to simultaneously supply current during programming and emission. Applicant references Vs as the referenced power supply. The rejection

referenced *ground* as the power supply used as capable to simultaneously supply current during both an emission and programming phase. As should be agreed to by applicant without a correctly supplied and connected ground the operations of a circuit would not function. Wherein ground is connected simultaneously to all emitters during emitting and programming phases, even though normal in the art ground is 0 it still provides a current to all emitter. Further if the rejection referenced Vs as the power supply the rejection would still remain as indicated. Vs is, as claimed, *capable* of supplying current simultaneously to all of the emitters of a column during an emission step and a step of programming the emitters. Figure 2 describes a scan signal 3 set to both transistors 53 and 54 however 54 uses an inverter to change the polarity of the scan signal to make transistor 54 remain off during the programming step this stops the flow of current already simultaneously flowing to each of the emitters of the column. Without the inverter during the programming step the current from power supply Vs would allowed to enter the OLED 1 and emit light during a programming phase. However, as claimed Vs and ground, reference capacitor 23 which holds the potential to leave open transistor 213 during an emitting phase, are both capable of supplying current simultaneously to all of the emitters of a column during an emission step and a step of programming the emitters.

The rejection remains as previously indicated and therefor **final**.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER E. LEIBY whose telephone number is (571)270-3142. The examiner can normally be reached on 9 - 5 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CL

July 8th, 2009

/Henry N Tran/
Primary Examiner, Art Unit 2629